

a solid fluoride or a solid iodide of a modifying element as a source of the modifying element, the modifying element being selected from the group consisting of zirconium, hafnium, and yttrium, and combinations thereof, and

a carrier gas;

producing a coating gas from the coating source, the coating gas comprising a gaseous aluminum halide, a gaseous fluoride or a gaseous iodide of the modifying element, and the carrier gas; and

contacting the coating gas to the article; and simultaneously

heating the coating gas and the article to a coating temperature of at least about 1850°F for a period of time sufficient to permit aluminum and the modifying element to coat onto the surface of the article.

7. (Amended) The method of claim 1, wherein the coating source further includes an elemental solid modifying element.

8. (Amended) The method of claim 1, wherein the step of contacting the coating gas includes the step of

providing the solid fluoride or the solid iodide of the modifying element separated from the article surface.

9. (Amended) The method of claim 1, wherein the step of contacting the coating source includes the step of

providing the fluoride or the iodide of the modifying element applied to the article surface.

12. (Amended) A method for coating an article, comprising the steps of: providing the article having a surface, the article being an airfoil;

preparing a coating source comprising:

a solid aluminum halide,

a solid fluoride of a modifying element as a source of the modifying

element, the fluoride of the modifying element being selected from the group consisting of a zirconium fluoride and a hafnium fluoride, and combinations thereof, and
a carrier gas;

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producing a coating gas from the coating source, the coating gas comprising a gaseous aluminum halide, a gaseous fluoride or a gaseous iodide of the modifying element, and the carrier gas; and

contacting the coating gas to the surface of the airfoil; and simultaneously heating the coating gas and the article to a coating temperature of from about 1850°F to about 2000°F for a period of time sufficient to permit aluminum and the modifying element to coat onto the surface of the airfoil.

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18. (Amended) The method of claim 12, wherein the coating source further includes an elemental solid modifying element.

19. (Amended) The method of claim 12, wherein the step of contacting the coating gas includes the step of providing the solid fluoride of the modifying element separated from the airfoil surface.
